

**GENES IDENTIFIED AS REQUIRED FOR PROLIFERATION IN
*ESCHERICHIA COLI***

Abstract of the Disclosure

5 The sequences of nucleic acids encoding proteins required for *E. coli* proliferation
are disclosed. The nucleic acids can be used to express proteins or portions thereof, to
obtain antibodies capable of specifically binding to the expressed proteins, and to use those
expressed proteins as a screen to isolate candidate molecules for rational drug discovery
programs. The nucleic acids can also be used to screen for homologous genes that are
required for proliferation in microorganisms other than *E. coli*. The nucleic acids can also
10 be used to design expression vectors and secretion vectors. The nucleic acids of the
present invention can also be used in various assay systems to screen for proliferation
required genes in other organisms as well as to screen for antimicrobial agents.

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